



Ephemeriden für Sternfreunde
von Karl-Heinz Bücke

www.buecke-info.de

Venus 2016

Datum	α	δ	b	Δ (AE)	E	mv	φ	\varnothing	k	q (")	$\Delta\alpha$ (h:m)	$\Delta\delta$ (')	l	r
1.01.	16:01	-18.6	2.0	1.166	38 W	-4.1	57.1	14.30	0.772	3.27	-2:42	4.4	184.9	0.720
4.01.	16:16	-19.4	1.9	1.185	37 W	-4.1	55.9	14.07	0.780	3.09	-2:40	3.4	189.8	0.721
7.01.	16:31	-20.1	1.8	1.204	37 W	-4.0	54.7	13.85	0.789	2.93	-2:38	2.4	194.6	0.721
10.01.	16:47	-20.7	1.7	1.222	36 W	-4.0	53.6	13.64	0.797	2.77	-2:36	1.4	199.4	0.721
13.01.	17:02	-21.2	1.6	1.241	36 W	-4.0	52.4	13.45	0.805	2.62	-2:33	0.4	204.3	0.722
16.01.	17:18	-21.6	1.4	1.258	35 W	-4.0	51.3	13.25	0.813	2.48	-2:30	-0.6	209.1	0.722
19.01.	17:34	-22.0	1.3	1.276	34 W	-4.0	50.1	13.07	0.821	2.34	-2:27	-1.5	213.9	0.723
22.01.	17:50	-22.2	1.2	1.293	34 W	-4.0	49.0	12.90	0.828	2.22	-2:24	-2.4	218.7	0.723
25.01.	18:06	-22.4	1.0	1.311	33 W	-4.0	47.9	12.73	0.835	2.10	-2:21	-3.3	223.5	0.723
28.01.	18:22	-22.5	0.9	1.327	32 W	-4.0	46.8	12.57	0.842	1.98	-2:17	-4.1	228.3	0.724
31.01.	18:38	-22.4	0.7	1.344	32 W	-4.0	45.7	12.41	0.849	1.87	-2:14	-4.8	233.1	0.724
3.02.	18:54	-22.3	0.6	1.360	31 W	-4.0	44.6	12.26	0.856	1.76	-2:10	-5.5	237.9	0.725
6.02.	19:10	-22.0	0.4	1.376	30 W	-4.0	43.5	12.12	0.863	1.67	-2:06	-6.2	242.7	0.725
9.02.	19:25	-21.7	0.3	1.392	30 W	-4.0	42.4	11.99	0.869	1.57	-2:02	-6.8	247.5	0.725
12.02.	19:41	-21.2	0.1	1.407	29 W	-4.0	41.4	11.85	0.875	1.48	-1:58	-7.3	252.2	0.726
15.02.	19:57	-20.7	0.0	1.422	28 W	-3.9	40.3	11.73	0.881	1.39	-1:54	-7.8	257.0	0.726
18.02.	20:13	-20.1	-0.1	1.437	28 W	-3.9	39.3	11.61	0.887	1.31	-1:50	-8.2	261.7	0.726
21.02.	20:28	-19.4	-0.3	1.452	27 W	-3.9	38.2	11.49	0.893	1.23	-1:47	-8.5	266.5	0.727
24.02.	20:43	-18.6	-0.4	1.466	26 W	-3.9	37.2	11.38	0.898	1.16	-1:43	-8.8	271.3	0.727
27.02.	20:59	-17.7	-0.5	1.480	26 W	-3.9	36.1	11.27	0.904	1.08	-1:39	-9.0	276.0	0.727
1.03.	21:14	-16.7	-0.7	1.493	25 W	-3.9	35.1	11.17	0.909	1.02	-1:35	-9.2	280.7	0.728
4.03.	21:28	-15.7	-0.8	1.507	24 W	-3.9	34.1	11.07	0.914	0.95	-1:31	-9.3	285.5	0.728
7.03.	21:43	-14.6	-0.9	1.520	24 W	-3.9	33.1	10.98	0.919	0.89	-1:28	-9.4	290.2	0.728
10.03.	21:58	-13.4	-1.0	1.532	23 W	-3.9	32.0	10.89	0.924	0.83	-1:24	-9.4	295.0	0.728
13.03.	22:12	-12.2	-1.1	1.545	22 W	-3.9	31.0	10.80	0.929	0.77	-1:21	-9.4	299.7	0.728
16.03.	22:26	-11.0	-1.2	1.557	21 W	-3.9	30.0	10.71	0.933	0.72	-1:18	-9.3	304.5	0.728
19.03.	22:41	-9.7	-1.2	1.568	21 W	-3.9	28.9	10.63	0.938	0.66	-1:15	-9.2	309.2	0.728
22.03.	22:55	-8.3	-1.3	1.580	20 W	-3.9	27.9	10.56	0.942	0.61	-1:12	-9.1	314.0	0.728
25.03.	23:08	-7.0	-1.4	1.591	19 W	-3.9	26.9	10.48	0.946	0.57	-1:09	-8.9	318.7	0.728
28.03.	23:22	-5.6	-1.4	1.602	19 W	-3.9	25.8	10.41	0.950	0.52	-1:06	-8.6	323.4	0.728
31.03.	23:36	-4.1	-1.5	1.612	18 W	-3.9	24.8	10.35	0.954	0.48	-1:03	-8.4	328.2	0.728
3.04.	23:50	-2.7	-1.5	1.622	17 W	-3.9	23.8	10.28	0.958	0.44	-1:00	-8.1	332.9	0.728
6.04.	0:03	-1.2	-1.5	1.632	16 W	-3.9	22.7	10.22	0.961	0.40	-0:58	-7.8	337.7	0.728
9.04.	0:17	0.2	-1.5	1.641	16 W	-3.9	21.7	10.17	0.965	0.36	-0:55	-7.4	342.5	0.728
12.04.	0:30	1.7	-1.5	1.650	15 W	-3.9	20.6	10.11	0.968	0.32	-0:52	-7.0	347.2	0.727
15.04.	0:44	3.2	-1.5	1.658	14 W	-3.9	19.6	10.06	0.971	0.29	-0:50	-6.7	352.0	0.727
18.04.	0:58	4.6	-1.5	1.666	13 W	-3.9	18.5	10.01	0.974	0.26	-0:47	-6.3	356.8	0.727
21.04.	1:11	6.1	-1.4	1.674	13 W	-3.9	17.4	9.96	0.977	0.23	-0:45	-5.8	1.5	0.726
24.04.	1:25	7.5	-1.4	1.681	12 W	-3.9	16.4	9.92	0.980	0.20	-0:42	-5.4	6.3	0.726
27.04.	1:39	8.9	-1.3	1.688	11 W	-3.9	15.3	9.88	0.982	0.18	-0:40	-5.0	11.1	0.726
30.04.	1:53	10.3	-1.3	1.695	10 W	-3.9	14.2	9.84	0.985	0.15	-0:37	-4.6	15.9	0.725



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	$\Delta\alpha$ (h:m)	$\Delta\delta$ (')	l	r
3.05.	2:07	11.6	-1.2	1.701	9 W	-3.9	13.1	9.81	0.987	0.13	-0:35	-4.1	20.6	0.725
6.05.	2:21	12.9	-1.1	1.706	9 W	-3.9	12.0	9.78	0.989	0.11	-0:32	-3.7	25.4	0.725
9.05.	2:35	14.2	-1.0	1.711	8 W	-3.9	10.9	9.75	0.991	0.09	-0:30	-3.3	30.2	0.724
12.05.	2:50	15.3	-1.0	1.716	7 W	-3.9	9.8	9.72	0.993	0.07	-0:27	-2.8	35.0	0.724
15.05.	3:04	16.5	-0.9	1.720	6 W	-3.9	8.7	9.70	0.994	0.06	-0:24	-2.4	39.8	0.723
18.05.	3:19	17.6	-0.8	1.724	5 W	-3.9	7.6	9.68	0.996	0.04	-0:21	-2.0	44.6	0.723
21.05.	3:34	18.6	-0.7	1.727	5 W	-3.9	6.5	9.66	0.997	0.03	-0:18	-1.6	49.4	0.723
24.05.	3:49	19.5	-0.5	1.730	4 W	-3.9	5.3	9.64	0.998	0.02	-0:15	-1.3	54.2	0.722
27.05.	4:05	20.4	-0.4	1.732	3 W	-3.9	4.2	9.63	0.999	0.01	-0:12	-1.0	59.1	0.722
30.05.	4:20	21.1	-0.3	1.733	2 W	-3.9	3.0	9.62	0.999	0.01	-0:09	-0.7	63.9	0.721
2.06.	4:36	21.8	-0.2	1.735	1 W	-3.9	1.9	9.62	1.000	0.00	-0:06	-0.4	68.7	0.721
5.06.	4:51	22.4	-0.1	1.735	1 W	-3.9	0.7	9.61	1.000	0.00	-0:02	-0.1	73.5	0.721
8.06.	5:07	22.9	0.0	1.735	0 O	-3.9	0.4	9.61	1.000	0.00	0:01	0.1	78.4	0.720
11.06.	5:23	23.3	0.2	1.735	1 O	-3.9	1.6	9.61	1.000	0.00	0:05	0.2	83.2	0.720
14.06.	5:39	23.6	0.3	1.734	2 O	-3.9	2.8	9.62	0.999	0.01	0:08	0.4	88.1	0.720
17.06.	5:55	23.8	0.4	1.733	3 O	-3.9	3.9	9.63	0.999	0.01	0:12	0.4	92.9	0.720
20.06.	6:11	23.9	0.5	1.731	4 O	-3.9	5.1	9.64	0.998	0.02	0:16	0.5	97.8	0.719
23.06.	6:27	23.9	0.6	1.728	4 O	-3.9	6.3	9.65	0.997	0.03	0:19	0.5	102.6	0.719
26.06.	6:44	23.8	0.7	1.725	5 O	-3.9	7.5	9.67	0.996	0.04	0:23	0.4	107.5	0.719
29.06.	7:00	23.5	0.8	1.721	6 O	-3.9	8.7	9.69	0.994	0.06	0:27	0.3	112.3	0.719
2.07.	7:16	23.2	0.9	1.717	7 O	-3.9	9.8	9.71	0.993	0.07	0:30	0.2	117.2	0.719
5.07.	7:32	22.8	1.0	1.713	8 O	-3.9	11.0	9.74	0.991	0.09	0:34	0.0	122.1	0.718
8.07.	7:47	22.2	1.1	1.707	9 O	-3.9	12.2	9.77	0.989	0.11	0:37	-0.2	126.9	0.718
11.07.	8:03	21.6	1.2	1.702	9 O	-3.9	13.4	9.80	0.986	0.13	0:41	-0.5	131.8	0.718
14.07.	8:18	20.9	1.2	1.695	10 O	-3.9	14.6	9.84	0.984	0.16	0:44	-0.8	136.7	0.718
17.07.	8:34	20.1	1.3	1.689	11 O	-3.9	15.8	9.88	0.981	0.19	0:47	-1.1	141.6	0.718
20.07.	8:49	19.2	1.4	1.682	12 O	-3.9	17.0	9.92	0.978	0.22	0:50	-1.4	146.5	0.719
23.07.	9:04	18.2	1.4	1.674	13 O	-3.9	18.2	9.97	0.975	0.25	0:53	-1.8	151.3	0.719
26.07.	9:19	17.1	1.4	1.666	14 O	-3.9	19.3	10.01	0.972	0.28	0:56	-2.3	156.2	0.719
29.07.	9:34	16.0	1.5	1.657	14 O	-3.9	20.5	10.07	0.968	0.32	0:59	-2.7	161.1	0.719
1.08.	9:48	14.8	1.5	1.648	15 O	-3.9	21.7	10.12	0.965	0.36	1:02	-3.1	165.9	0.719
4.08.	10:02	13.6	1.5	1.638	16 O	-3.9	22.9	10.18	0.961	0.40	1:05	-3.6	170.8	0.720
7.08.	10:16	12.3	1.5	1.628	17 O	-3.9	24.0	10.25	0.957	0.44	1:07	-4.1	175.7	0.720
10.08.	10:30	10.9	1.5	1.618	18 O	-3.9	25.2	10.31	0.952	0.49	1:10	-4.6	180.5	0.720
13.08.	10:44	9.5	1.4	1.607	18 O	-3.9	26.4	10.38	0.948	0.54	1:12	-5.1	185.4	0.720
16.08.	10:58	8.1	1.4	1.595	19 O	-3.9	27.5	10.46	0.943	0.59	1:15	-5.6	190.2	0.721
19.08.	11:12	6.6	1.4	1.583	20 O	-3.9	28.7	10.53	0.939	0.65	1:17	-6.1	195.1	0.721
22.08.	11:25	5.1	1.3	1.571	21 O	-3.9	29.8	10.62	0.934	0.70	1:20	-6.6	199.9	0.721
25.08.	11:39	3.6	1.2	1.559	22 O	-3.9	31.0	10.70	0.929	0.76	1:22	-7.1	204.8	0.722
28.08.	11:52	2.1	1.2	1.546	22 O	-3.9	32.1	10.79	0.923	0.83	1:25	-7.5	209.6	0.722
31.08.	12:05	0.5	1.1	1.533	23 O	-3.9	33.3	10.88	0.918	0.89	1:27	-8.0	214.4	0.723



Datum	α	δ	b	Δ (AE)	E	mv	φ	\emptyset	k	q (")	$\Delta\alpha$ (h:m)	$\Delta\delta$ (°)	l	r
3.09.	12:19	-1.0	1.0	1.519	24 O	-3.9	34.4	10.98	0.913	0.96	1:30	-8.5	219.2	0.723
6.09.	12:32	-2.5	0.9	1.505	25 O	-3.9	35.5	11.08	0.907	1.03	1:32	-8.9	224.0	0.723
9.09.	12:45	-4.1	0.8	1.490	25 O	-3.9	36.7	11.19	0.901	1.11	1:35	-9.3	228.8	0.724
12.09.	12:59	-5.6	0.7	1.476	26 O	-3.9	37.8	11.30	0.895	1.18	1:37	-9.7	233.6	0.724
15.09.	13:12	-7.1	0.5	1.461	27 O	-3.9	38.9	11.42	0.889	1.27	1:40	-10.1	238.4	0.725
18.09.	13:26	-8.6	0.4	1.445	28 O	-3.9	40.0	11.54	0.883	1.35	1:43	-10.4	243.2	0.725
21.09.	13:39	-10.1	0.3	1.430	28 O	-3.9	41.1	11.67	0.877	1.44	1:46	-10.7	247.9	0.725
24.09.	13:53	-11.5	0.1	1.414	29 O	-3.9	42.2	11.80	0.870	1.53	1:49	-11.0	252.7	0.726
27.09.	14:07	-12.9	0.0	1.398	30 O	-3.9	43.3	11.93	0.864	1.63	1:52	-11.2	257.5	0.726
30.09.	14:21	-14.3	-0.2	1.381	31 O	-3.9	44.4	12.07	0.857	1.73	1:55	-11.4	262.2	0.726
3.10.	14:35	-15.6	-0.3	1.365	31 O	-3.9	45.5	12.22	0.850	1.83	1:58	-11.5	267.0	0.727
6.10.	14:49	-16.8	-0.5	1.348	32 O	-3.9	46.6	12.38	0.843	1.94	2:01	-11.6	271.7	0.727
9.10.	15:04	-18.0	-0.6	1.331	33 O	-4.0	47.7	12.54	0.836	2.05	2:05	-11.7	276.5	0.727
12.10.	15:19	-19.1	-0.8	1.313	33 O	-4.0	48.8	12.70	0.829	2.17	2:09	-11.6	281.2	0.728
15.10.	15:33	-20.2	-0.9	1.295	34 O	-4.0	49.9	12.88	0.822	2.30	2:12	-11.6	286.0	0.728
18.10.	15:48	-21.1	-1.1	1.277	35 O	-4.0	51.0	13.06	0.814	2.42	2:16	-11.4	290.7	0.728
21.10.	16:04	-22.0	-1.2	1.259	35 O	-4.0	52.2	13.25	0.807	2.56	2:20	-11.2	295.5	0.728
24.10.	16:19	-22.8	-1.4	1.241	36 O	-4.0	53.3	13.44	0.799	2.70	2:24	-11.0	300.2	0.728
27.10.	16:34	-23.5	-1.5	1.222	37 O	-4.0	54.4	13.65	0.791	2.85	2:28	-10.7	304.9	0.728
30.10.	16:50	-24.1	-1.6	1.204	37 O	-4.0	55.5	13.86	0.783	3.00	2:32	-10.3	309.7	0.728
2.11.	17:06	-24.6	-1.8	1.185	38 O	-4.0	56.6	14.08	0.775	3.17	2:36	-9.8	314.4	0.728
5.11.	17:21	-25.0	-1.9	1.165	38 O	-4.0	57.8	14.31	0.767	3.34	2:40	-9.3	319.2	0.728
8.11.	17:37	-25.3	-2.0	1.146	39 O	-4.0	58.9	14.55	0.758	3.52	2:44	-8.7	323.9	0.728
11.11.	17:53	-25.5	-2.1	1.126	40 O	-4.1	60.1	14.81	0.750	3.71	2:47	-8.0	328.7	0.728
14.11.	18:09	-25.6	-2.2	1.107	40 O	-4.1	61.2	15.07	0.741	3.91	2:51	-7.3	333.4	0.728
17.11.	18:25	-25.6	-2.2	1.087	41 O	-4.1	62.4	15.35	0.732	4.12	2:54	-6.5	338.2	0.728
20.11.	18:41	-25.4	-2.3	1.067	41 O	-4.1	63.6	15.64	0.723	4.34	2:58	-5.7	342.9	0.728
23.11.	18:56	-25.2	-2.4	1.046	42 O	-4.1	64.8	15.94	0.713	4.57	3:01	-4.8	347.7	0.727
26.11.	19:12	-24.8	-2.4	1.026	42 O	-4.1	66.0	16.26	0.703	4.82	3:04	-3.8	352.5	0.727
29.11.	19:27	-24.3	-2.4	1.005	43 O	-4.1	67.2	16.59	0.694	5.08	3:06	-2.8	357.2	0.727
2.12.	19:43	-23.8	-2.4	0.985	43 O	-4.2	68.5	16.94	0.684	5.36	3:09	-1.8	2.0	0.726
5.12.	19:58	-23.1	-2.4	0.964	44 O	-4.2	69.7	17.31	0.673	5.66	3:11	-0.7	6.8	0.726
8.12.	20:12	-22.4	-2.4	0.943	44 O	-4.2	71.0	17.70	0.663	5.97	3:12	0.4	11.6	0.726
11.12.	20:27	-21.5	-2.3	0.921	45 O	-4.2	72.3	18.10	0.652	6.30	3:14	1.5	16.3	0.725
14.12.	20:41	-20.6	-2.3	0.900	45 O	-4.2	73.7	18.53	0.641	6.66	3:15	2.6	21.1	0.725
17.12.	20:55	-19.6	-2.2	0.879	45 O	-4.2	75.0	18.99	0.629	7.05	3:15	3.7	25.9	0.725
20.12.	21:09	-18.5	-2.1	0.857	46 O	-4.3	76.4	19.47	0.617	7.45	3:16	4.9	30.7	0.724
23.12.	21:22	-17.4	-1.9	0.835	46 O	-4.3	77.9	19.97	0.605	7.89	3:16	6.0	35.5	0.724
26.12.	21:35	-16.2	-1.8	0.813	46 O	-4.3	79.3	20.51	0.592	8.36	3:15	7.1	40.3	0.723
29.12.	21:48	-15.0	-1.6	0.791	47 O	-4.3	80.8	21.08	0.580	8.86	3:15	8.2	45.1	0.723

Die Ephemeriden gelten für 0 Uhr Weltzeit.

Geozentrische Koordinaten:

α und δ : Rektaszension und Deklination zum Äquinoktium des Datums. b: ekliptikale Breite; Δ : Abstand von der Erde.
E: Elongation (Winkel zwischen Planet und Sonnenmitte); mv: visuelle Helligkeit; φ : Phasenwinkel

Physische Ephemeriden (für Beobachtungen am Teleskop):

\emptyset : scheinbarer Durchmesser;
k: beleuchteter Teil; q: Phasendefekt (Beleuchtungsdefekt)

Koordinaten für Tagesbeobachtungen:

$\Delta\alpha$ und $\Delta\delta$: Rektaszensions- und Deklinationsdifferenzen (Venus minus Sonne)

Heliozentrische Koordinaten:

l: Länge zum Äquinoktium des Datums; r: Abstand von der Sonne.